AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims, as follows:

1-15. (Canceled)

16. (Currently Amended) A method of designing a transport network for routing a plurality of routable flows, <u>said transport network</u> having a plurality of network elements and a plurality of connections between said network elements, the method comprising:

a) defining a first network configuration and at least one alternative network configuration for said transport network;

b) calculating for each of said first and any alternative network configuration, a probability function representing, for each maximum number of routable flows, the probability of routing such a number of flows in the network configuration currently considered, <u>wherein said probability function is calculated as the ratio between the number of times that a maximum number of routable flows has been successfully routed by means of a test routine repeated a predetermined number of times, and the number of times said test routine has been repeated;</u>

c) calculating for each of said first and any alternative network configuration, a complexity function calculated as the ratio between a sum of complexity factors relative to the network elements of the

network configuration currently considered and said probability

function; and

d)   comparing the complexity functions of said first and any alternative

network configurations, for choosing a network configuration having

a lowest complexity value.

17.   (Canceled)

18.   (Currently Amended) The method as claimed in claim ~~17~~16, wherein said test

routine comprises:

e)   generating a first random number representing a first network

element;

f)   generating a second random number, different from said first

random number, representing a second network element;

g)   searching a free path between said first network element and said

second network element and, in case said free path has been

found, increasing a counter of maximum routable flows and

marking said path as a routed flow; and

h)   repeating steps (e) to (g) until no one free path can be found for

routing a new flow.

19. (Previously Presented) The method as claimed in claim 18, wherein first and second random numbers are weighted random numbers in order to simulate a polarized traffic demand in the network.

20. (Previously Presented) The method as claimed in claim 18, wherein said step of searching a free path provides for searching initially a shortest path between said first and second network elements for successively searching a longer path if said shortest path has not been found.

21. (Previously Presented) The method as claimed in claim 16, wherein said step of comparing the complexity functions is performed calculating said complexity function for each network configuration considered in correspondence of an estimated maximum number of routable flows in said transport network.

22. (Previously Presented) The method as claimed in claim 16, wherein the complexity factor of a network element is proportional to the cost of the same network element, and said complexity function represents a unit-cost-per-flow function.

23. (Currently Amended) A computer readable medium comprising computer program code executable by a computer, the computer program code configured to perform a method of designing a transport network for routing a plurality of routable flows, said transport network having a plurality of network elements and a plurality of connections between said network elements, the method comprising:

a)   defining a first network configuration and at least one alternative

network configuration for said transport network;

b)   calculating for each of said first and any alternative network

configuration, a probability function representing, for each

maximum number of routable flows, the probability of routing such

a number of flows in the network configuration currently considered,

wherein said probability function is calculated as the ratio between

the number of times that a maximum number of routable flows has

been successfully routed by means of a test routine repeated a

predetermined number of times and the number of times said test

routine has been repeated;

c)   calculating for each of said first and any alternative network

configuration, a complexity function calculated as the ratio between

a sum of complexity factors relative to the network elements of the

network configuration currently considered and said probability

function; and

d)   comparing the complexity functions of said first and any alternative

network configurations, for choosing a network configuration having

a lowest complexity value.

24.   (Canceled)

25.   (Currently Amended) A device for designing a transport network having a

plurality of network elements and a plurality of connections between said network

elements, the device comprising:

a network configuration unit for defining a first network configuration and

at least one alternative network configuration for said transport network;

a probability evaluation unit for calculating for each of said first and any

alternative network configuration, a probability function representing, for each maximum

number of routable flows, the probability of routing such a number of flows in the

network configuration currently considered, wherein said probability evaluation unit

calculates said probability function as the ratio between the number of times that a

maximum number of routable flows has been successfully routed by means of a test

routine repeated a predetermined number of times and the number of times said test

routine has been repeated;

a complexity evaluation unit for calculating for each of said first and any

alternative network configuration, a complexity function calculated as the ratio between

a sum of complexity factors relative to the network elements of the network

configuration currently considered and said probability function; and

a comparison unit for comparing the complexity functions of said first and

any alternative network configurations, for choosing a network configuration having a

lowest complexity value.

26.   (Canceled)

27. (Currently Amended) The device as claimed in claim 2625, wherein said test routine comprises the steps:

generating a first random number representing a first network element;

generating a second random number different from said first random number representing a second network element;

searching a free path between said first network element and said second network element and, in case said free path has been found, increasing a counter of maximum routable flows and marking said path as a routed flow;

repeating said steps until no one free path can be found for routing a new flow.

28. (Previously Presented) The device as claimed in claim 27, wherein said step of searching a free path provides for searching initially a shortest path between said first and second network elements for successively searching a longer path if said shortest path has not been found.

29. (Previously Presented) The device as claimed in claim 25, wherein said comparison unit compares the complexity functions by calculating said complexity function for each network configuration considered in correspondence of an estimated maximum number of routable flows in said transport network.

30.   (Previously Presented) The device as claimed in claim 25 or 29, wherein the complexity factor of a network element is proportional to the cost of the same network element, and said complexity function represents a unit-cost-per-flow function.